

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-89: (Currently Cancelled).

90. (Original) A method of operating an electrically programmable and erasable memory device having an electrically conductive floating gate disposed over and insulated from a substrate of semiconductor material, and an electrically conductive control gate having at least a portion thereof disposed laterally adjacent to the floating gate and insulated therefrom by an insulating material, the method comprising the step of:

placing a voltage on the control gate that is sufficiently positive relative to a voltage of the floating gate to induce electrons on the floating gate to laterally tunnel from a horizontally oriented edge extending from a lateral side of the floating gate, through the insulating material, and onto the control gate via Fowler-Nordheim tunneling.

91. (Original) The method of claim 90, further comprising the steps of:

placing a positive voltage on a source region of the substrate formed at least partially underneath and insulated from the floating gate to capacitively couple the positive voltage onto the floating gate;

placing a positive voltage on a drain region of the substrate that is disposed underneath a trench formed in the surface of the substrate; and

placing a positive voltage on the control gate which has a first portion extending down into the trench and a second portion disposed laterally adjacent to the floating gate edge;

wherein electrons are induced to travel from the drain region, generally along a sidewall of the trench and onto the floating gate.

92. (Original) A method of operating an electrically programmable and erasable non-volatile memory cell having a first and a second state, and including an electrically conductive floating gate disposed over and insulated from a substrate of semiconductor material, and an electrically conductive control gate having at least a portion thereof disposed laterally adjacent to the floating gate, the method comprising the steps of:

establishing a first state of the memory cell by injecting electrons from a drain region of the substrate onto the floating gate, wherein the source region is disposed below a surface of the substrate and the injected electrons travel through the substrate in a direction generally perpendicular to the surface of the substrate; and

establishing a second state of the memory cell by removing electrons from the floating gate to the control gate via Fowler-Nordheim tunneling through an insulating material disposed therebetween, wherein the removed electrons tunnel from a horizontally oriented edge extending from a lateral side of the floating gate, through the insulating material, and onto the control gate in a direction generally parallel to the surface of the substrate.